

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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Ex Parte Winga Ho

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**Application for Patent**

**Filed June 5, 2000**

**Application No. 09/587,721**

**Group Art Unit 2143**

**Examiner Boutah, A.**

**FOR:**

**SYNCHRONIZATION METHOD AND SYSTEM FOR KEEPING TRACK OF  
ENCODING HISTORY TO MAINTAIN DIGITAL SYSTEM  
SYNCHRONIZATION DURING COMMUNICATION OVER LOSSY  
TRANSMISSION MEDIA**

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**REPLY BRIEF**

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Signed: /Ann Lowe/ Typed: Ann Lowe

**The following supplemental arguments serve to supplement the Appeal Brief entered April 4, 2006. This third Reply Brief supercedes the first Reply Brief filed July 17, 2007 and contains the original text of that first Reply Brief plus additional arguments. It is believed that this third Reply Brief is permitted as it is being filed within two months of the Examiner's Answer.**

**ARGUMENT [Supplemented]**

In rejecting the claims, the Examiner admits that *Desnoyers* fails to explicitly teach "said encoder information record being previously acknowledged by said receiving digital systems; building a new encoder information record including the encoding information used to encode said packet data as well as the packet data; updating that the decoder information in said decoder information record with said packet data; acknowledging processing of the packet to said sending digital system to enable said sending digital system to update said encoder information so that said new encoder information record is used to encode packet data; and when the packet is lost, at the sending digital system rebuilding the new encoder information record without the lost packet data." *E.g.*, Examiner's Answer, page 5. The Examiner asserts, however, that *Uota* teaches each of the elements not taught by *Desnoyers*.

More particularly, the Examiner asserts that building a new information record including the information used to construct said packet data as well as the packet data is disclosed in the *Uota* reference in the abstract and at column 2, lines 52 to 54. The Examiner further asserts that the recitation "when the packet is lost, at the sending digital system rebuilding the new encoder information record without the lost packet data" is taught at column 3, lines 8 to 12, lines 29 to 40, and figures 3-5. *E.g.*, Examiner's Answer, page 5.

Referring to the *Uota* reference, the only information record that is updated is a history of correctly received frame-numbers (wherein a single bit is set in a backward information field of a frame to be transmitted to a transmitting terminal). This is not equivalent to building or rebuilding a new encoder information record

including the encoding information used to encode said packet data as well as the packet data.

The abstract of the *Uota* reference discloses that data is transmitted in frames each of which is constructed of a flag sequence field for delimiting a frame, a forward information field including a number for identifying a frame, a backward information field containing a history of frame-numbers of correctly received frames, an information field including user data of a fixed length and a code for error-detection field for detecting an error of the received frame. The abstract further teaches that when a frame is correctly received, a receiving terminal updates a history of correctly received frame-numbers and sets it in a backward information field of a frame to be transmitted to a transmitting terminal. When a frame is incorrectly received, history information for a precedent correct frame is set in the backward information field of the frame.

Likewise, column 2 lines 52 to 54 of *Uota* teach that data is transmitted in frames constructed of a flag sequence field for delimiting a frame, a forward information field containing a frame-number for identifying a frame, a backward information field including a history of frame numbers of acknowledged (i.e., correctly received) frames, an information field including user data of a fixed length . . . etc. It is quite clear that the abstract and the indicated extracts of *Uota* cited by the Examiner fail to teach or suggest any building or rebuilding of a new encoder information record including the encoding information used to encode said packet data as well as the packet data.

Referring now to column 3, lines 8 to 12 and 29 to 40, *Uota* teaches "if an error is detected therein, the receiving terminal does not update the history of frame-numbers and sets a precedent history information in the backward information field of the frame" and "the receiving terminal makes a check on a just arrived frame by code for error-detection contained therein, and, if no error is found in the frame, updates a history of frame-numbers by adding thereto the number of just checked frame and sets the thus updated history information in a backward information field of a frame or, if the frame is found to contain an error, does not add the frame-number to the history information and sets the precedent frame-number instead of the error frame in the background information field of the frame and sends the frame to the transmitting terminal".

Claim 1 of the present application specifically recites "building a new encoder information record including the encoding information used to encode said packet data as well as the packet data" and "when the packet is lost, at the sending digital system rebuilding the new encoder information record without the lost packet data". Thus, the new encoder information record that is rebuilt includes encoding information used to encode the packet data as well as the packet data. There is no teaching anywhere in the cited references of these elements as claimed in claim 1 under appeal. *Uota* simply updates a number of correctly received frames.

According to the present invention, when a packet is lost at the sending digital system the new encoder information record is rebuilt without the lost packet data. As recited in the claims, the new encoder information record includes encoding information used to encode a packet data. The portions of the prior art identified by the Examiner are clearly not equivalent to building the new encoder information record including encoding information that is used to encode the packet data, without the lost packet data.

In the Examiner's Answer, under the heading "(10) Response to Argument," the Examiner notes that *Uota* teaches a method of constructing data frames to enable sending and receiving systems to determine when a transmitted data frame is not being properly received. Each data frame includes a flag sequence field, a forward information field, a backward information field, a user data field, and an error detection field. The backward information field includes history information of received frame in the form of an 8-bit string. Examiner also refers to the Authoritative Dictionary of IEEE Standards Terms as defining "encoding" as "the representation of data bits and non-data information for signal transmission across a serial communications medium. Non-data information includes indications of start and end of octets and frame transmission." Examiner concludes from the IEEE definition that the data frame transmission disclosed by *Uota* in figures 3-5 is equivalent to an encoded data packet. Since *Uota*'s data frame includes history information, the Examiner concludes that the information field is "an information record used to encode packet data as specified in the claimed invention."

Although it is possible to construe *Uota* as teaching a method of constructing data frames (i.e. encoding data packets) wherein each data frame (i.e. encoded packet)

**includes** a backward information field containing history information of received frames, there is no teaching or suggestion in *Uota* of **using** the record to perform the actual encoding. For example, claim 1 recites “encoding packet data . . . **using** encoding information in an encoder information record” and “building a new encoder information record including the encoding information **used to encode** said packet data as well as the packet data” (emphasis added). Whereas the IEEE definition defines “encoding” as a representation of data bits and non-data information, the cited IEEE definition is silent on **how** the representation is arrived at. The IEEE definition is broad enough to encompass any manner of encoding (*e.g.* Huffman coding, Hamming coding, etc.). According to the present invention, as defined by the independent claims, specialized encoding of the packet data is performed “**using** encoding information in an encoder information record.”

Accordingly, the Examiner’s conclusion that information field in *Uota* is used to encode packet data is fundamentally flawed.

In rejecting the claims presently on file, the Examiner has directed attention to portions of the cited reference that clearly do not teach the claimed elements and has maintained his rejection of the claims without explanation. The Examiner has therefore not set forth sufficient basis on which to maintain the rejection of the claims under 35 U.S.C. §103(a).

Since these elements are not taught in either of the cited references, it is believed that claim 1 fully distinguish this over the cited references. Claim 17 includes similar limitations that are also not found in either of the cited references and therefore this claim is also believed to fully distinguish over the cited references. Since the remainder of the claims includes at least all of the limitations of one of the independent claims, these claims are also believed to be patentable.

In view of the above, Applicant respectfully submit that the present application is in order for allowance and respectfully request the Board of Appeals to direct the Examiner to withdraw the Final Official Action and issue a Notice of Allowance.

It is submitted that the rejection of claims 1-20 under 35 U.S.C. §103 is improper and should be withdrawn. Accordingly, it is respectfully requested that the Board reverse the Examiner’s rejection and remand the application to the Examiner

with directions to allow all claims.

## **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the Examiner's rejection of claims 1-20 as being unpatentable over PCT Publication No. WO/14971 to *Desnoyers et al.* in view of European Patent No. 0851624 to *Uota et al.* is erroneous. Accordingly, the rejection of claims 1-20 under 35 U.S.C. §103 should be reversed. For the reasons set forth in this Appeal Brief and in this Reply Brief, the Board should reverse the final rejection and should order the Examiner to pass this application to allowance.

Respectfully Submitted,

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